

Running Head: DUAL- MOTIVE SYSTEM CHANGE

## Yes We Can! A Dual-Motive Approach to System Change

A Senior Honors Thesis

Presented in Partial Fulfillment of the Requirements for graduation *with research distinction* in Psychology in the undergraduate colleges of The Ohio State University

Micah B. Goldfarb

The Ohio State University

June 9, 2011

Project Advisor: Dr. Kentaro Fujita, Department of Psychology

## **Abstract**

Systems are social arrangements and rules that allow society to function. Systems provide structure to people's lives, however they are not always maximally efficient and advantage some over others. Surprisingly, people favor these systems, even when disadvantaged by them. System justification theory explains that people defend such systems due to fear of the uncertainty associated with change. We propose that there are two contrasting motives when contemplating system change: short-term system-justification vs. a long-term system-improvement motive. We believe that people in the long-term aspire to live in better systems; yet system change produces uncomfortable anxiety in the short-term. We propose that whether people act upon system-justification vs. system-improvement motives depends on the perceived level of changeability along with their subjective construals, or interpretations, of events, which can vary in abstraction. Previous research has shown that high-level (abstract) as compared to low-level (concrete) construals help people act in ways that serve their long-term goals. We hypothesize that high- vs. low-level construals will promote system-improvement over system-justification motives. The valence of system information that a person seeks can indicate which of the dual-motives is being pursued. The current study examines how changeability and construal levels interact to determine motive selection. Both factors were manipulated and the motive selected (improvement vs. justification) was measured through an information search paradigm. We found that when a sense of changeability was created, participants at high-level construals were less likely to system justify.

### **Acknowledgements**

I would like to thank my advisor, Dr. Kentaro Fujita, for all of his help and support throughout the entire thesis process. I am grateful for the opportunity to be able to organize a project under his oversight and am extremely thankful for all of his help in improving my skills and developing me as a researcher in academia. The tools that I have been taught will last throughout my career as a researcher and as a person. I would also like to thank all the graduate students who have assisted me throughout this process with helpful feedback and insight into how to conduct research as a successful graduate student. The entire lab has been crucial in my personal development and has taught me how to be successful at the next level in graduate school as well as further explaining the ins and outs of research. A special mention must go out to Karen MacGregor, who was unbelievably vital in assisting my project. Karen was always present and willing to provide feedback and support throughout the process. I am extremely grateful to everything she did to assist, instruct and support me and my project. I am thankful to the entire Fujita Lab including fellow Honors Thesis student Melissa Kwitowski for being my thesis partner and supporting each other throughout the year. Finally I must thank the funding I received from the College of Arts and Sciences, Social and Behavioral Sciences, Psychology Department, who made this project possible.

## Table of Contents

|  | Page |
|--|------|
| Abstract.....                                  | 2    |
| Acknowledgments.....                           | 3    |
| Table of Contents.....                         | 4    |
| List of Figures.....                           | 6    |
| Introduction.....                              | 7    |
| System Justification Theory.....               | 7    |
| Self-Relevant Information Search.....          | 10   |
| Level of Perceived Changeability.....          | 11   |
| Construal Level Theory.....                    | 13   |
| Applying Dual Motives at the System Level..... | 15   |
| The Present Study .....                        | 16   |
| Method.....                                    | 18   |
| Participants.....                              | 18   |
| Procedure.....                                 | 18   |
| System Information.....                        | 19   |
| Perceived Changeability Manipulation.....      | 20   |
| Construal Level Manipulation.....              | 21   |
| Dependent Measure.....                         | 21   |
| Manipulation Check.....                        | 22   |
| Results.....                                   | 22   |
| Manipulation Check.....                        | 22   |
| Primary Analysis.....                          | 23   |
| Exploratory Analysis.....                      | 23   |
| Discussion.....                                | 25   |
| Future Research.....                           | 25   |
| Improving Changeability.....                   | 25   |
| Beyond Information Search.....                 | 28   |
| Implications.....                              | 30   |
| List of References.....                        | 34   |

## Appendices:

|  |    |
|--|----|
| Appendix A: Pilot Study.....                           | 37 |
| Appendix B: System Information.....                    | 39 |
| Appendix C: Low-Level changeability manipulation.....  | 42 |
| Appendix D: High-Level changeability manipulation..... | 43 |
| Appendix E: Low-level construal manipulation.....      | 44 |
| Appendix F: High-level construal manipulation.....     | 47 |
| Appendix G: Expert cover story.....                    | 50 |
| Appendix H: Information search paradigm.....           | 51 |
| Appendix I: Dependent measure.....                     | 52 |
| Appendix J: Manipulation check index.....              | 53 |
| Figure Captions.....                                   | 54 |
| Figures.....   | 55 |

| Figure  | List of Figures | Page |
|---|-----------------|------|
| 1. Univariate ANOVA of interaction of construal and relevance on dependent measure.....                 |                 | 55   |
| 2. Linear Regression of construal and Importance of REP Improvement index on the dependent measure..... |                 | 55   |

## **Introduction**

“Yes we can!” and “Change” were two common phrases used during the 2008 election by Barack Obama to excite and inspire the American people with the idea that change is possible. His campaign was designed to show that if elected he would make a change from the current system or status quo that had been established by the previous presidency. Change, however, is often hard to accomplish and difficult to accept. This is especially challenging when attempting to change, or fix flaws in a group or system on a large scale.

Modern society functions based on the existence of social arrangements and rule sets known as systems (Jost & Hunyady, 2002). Systems are created and followed to maintain order and keep chaos from ensuing due to a lack of societal structure. However, imperfect systems are ubiquitous and are evident in everyday occurrences. Though system flaws often seem fixable, this task is often more daunting than it may seem.

## **System Justification Theory**

System justification theory explains why people refuse to acknowledge the negative attributes of the system to which they belong (Jost & Hunyady, 2002; Jost & Hunyady, 2005). People use system justification as a coping mechanism in order to feel better about their current situation thereby alleviating negative feelings about the present system. Through system justification, people justify the status quo to make it seem legitimate or even inevitable (Jost & Hunyady, 2002). This allows people to feel secure and believe that their circumstances are fair and just (Jost & Hunyady, 2002).

People often employ stereotypes and other ideologies as a means of justifying the present system. For example, the stereotype that members of the working class are unintelligent and lazy is often used by those in more advantaged situations to rationalize their poverty and steer blame away from the system as a whole. The unfairness or injustice is attributed to differences in people, which are supported by stereotypes. Therefore there is no reason to seek to change or improve the system since it is rather the individual who is at fault and not the system as a whole. This tendency seems reasonable for those who are advantaged by the system. However, even those most disadvantaged (the working class in the previous example) will also use system justification despite the negative personal implications of being “incompetent” or “lazy” (Kay et al., 2002). This shows how strong the desire to be a part of a successful system is, that individuals would rather derogate themselves than view their system as being flawed or in need of improvements and adjustments (Jost et al., 2004).

It is a common misconception that if a system needs change, then those affected will be motivated to confront the issue. Instead, research suggests that people experience a fear of change associated with uncertainty about the future, which can result in biased information processing (Jost & Hunyady, 2002). Individuals will interpret information encountered in a manner that will rationalize the status quo of the system. When information reveals the flaws of their system people often doubt the legitimacy of that information. Information that reaffirms one’s beliefs is interpreted as being of higher quality and more valuable (Jost & Hunyady, 2002). This is because it is a painful realization to admit that a system one values is indeed flawed and in need of adjustment. An example of this phenomenon is the current economic situation in the



United States. According to Wolff (as cited in Jost & Hunyady, 2002) the wealthiest 1% of the population is in control of almost half of the country's wealth, while the gap between the rich and the poor increases. Even though this is clearly a fault in the system, there is no attempt to remedy the situation, even by those who are on the poor side of the spectrum (Jost & Hunyady, 2002).

The current research will provide an attempt to address some of these questions. An information search paradigm was applied to understand if people would avoid information contrary to their beliefs. Individuals engaged in biased information processing can be demonstrated using an information search paradigm (Snyder & Swann, 1978). Specifically, we intended to investigate the circumstances under which people are willing to recognize and seek to understand negative aspects of their systems. This would be a first step on the path to promoting system change.

Systems do change from time to time, however system justification theory provides little explanation with respect to this process. System justification theory suggests that people only seek out change when it is sanctioned by the system or is somehow seen as inevitable (Jost & Hunyady, 2002). According to this theory, all other instances would only lead to system justification. Although this explains when system justification may occur it does not account for all situations. We believe that there is another motive that has been overlooked, a system improvement motive. We believe that there is an existence of a system improvement motive, which will seek out improvements instead of always justifying the status quo. We, instead, suggest a dual-motive approach to explore *when* people will actually seek out and expose themselves to negative attributes of a system rather than solely justifying the flaws. We propose that

there are two contrasting motives when contemplating system change: short-term system-justification vs. a long-term system-improvement motive. We believe that these two motives can be revealed through the valence of system-relevant information one seeks to explore. When presented with an opportunity to receive positive vs. negative diagnostic feedback about a social system, a choice to receive positive information would be consistent with a system-justification motive, while a choice to receive negative information would be consistent with a system improvement motive. The purpose of the current research is to document the potential existence of a system improvement motive. To better understand the dual-motive approach we must first examine the previous literature on self-relevant information search. Similar motives have been shown to exist at the self-level and help explain under what conditions people will seek out positive or negative information (Freitas et al., 2001; Trope & Neter, 1994).

### **Self-Relevant Information Search**

Research on self-relevant information search examines what motivates people to seek evaluative feedback about themselves (Trope & Neter, 1994). One existing motivation is that people are generally driven to understand themselves accurately including both their weaknesses and strengths (Sedikides & Strube, 1997; Trope & Neter, 1994). There are several possible motives underlying self-relevant information search, two of interest are self-improvement and self-enhancement (Trope & Neter, 1994). The self-improvement motive is a long-term motive aimed at seeking out accurate and diagnostic information, with the ultimate aim of bettering the self over time. To improve, an individual must be willing to take an honest look at their strengths and

weaknesses in order to learn what skills are needed to be acquired or improved (Bayer & Gollwitzer, 2005). A crucial aspect of the self-improvement motive is the willingness to seek out diagnostic information. This typically leads to seeking negative information because it is more useful to examine the flaws and weaknesses to improve upon them for the future. It is difficult to achieve improvement over time if the only feedback received is positive when in reality there are negative aspects that can be improved upon if acknowledged. The self-enhancement motive drives people to seek out positive information about themselves in order to maintain favorable self-views and remain positive to the extent that they can defend their judgments. The self-improvement motive will seek out diagnostic information, even if it is of a negative nature. When there is an opportunity to receive positive vs. negative self-relevant diagnostic feedback, the two motives promote contrasting reactions. The self-enhancement motive will prompt one to avoid negative self-relevant information and prefer positive information to maintain one's self-esteem, while the self-improvement motive will more likely lead to exposure of such information for its long-term self-improvement value. There is a conflict between the long-term motive of self-improvement and the short-term motive of self-enhancement when negative diagnostic information is available (Freitas et al., 2001; Sedikides & Gregg, 2008; Trope & Neter, 1994). An information search paradigm pits these two motives against each other to demonstrate which is followed in a particular situation (Trope & Neter, 1994).

Also of consideration is that for self-improvement motive to exist, the individual must perceive the feedback domain as being both relevant and important. If the feedback were not considered relevant or important to the individual there would be no

discomfort about seeking certain feedback. The benefits of receiving negative feedback would not exist because it does not relate or is of no personal value to the individual. Thus there is nothing for the self-improvement motive to work with, because people do not want to fix issues that they are not concerned with. People do not feel negative emotional costs upon receiving negative feedback if the feedback does not matter to them (Raghunathan & Trope, 2003). For example, if an individual did not hold their athleticism as relevant or important, were given negative feedback about their athleticism, they would not use this information to improve. There would be no motivation for self-improvement because this domain of athleticism is not relevant or valued by the individual. Therefore the relevance of the system makes diagnostic information provided either useful or not useful for system change concerns.

There are various factors that can influence and determine the selection of one motive over the other. The factors that will be explored that influence motive selection are level of perceived changeability and construal levels. These factors have been shown to influence information search in the past self-relevant literature.

**Level of perceived changeability.** A crucial factor in searching for negative feedback is whether or not improvement is possible (Trope et al., 2003). If the self cannot be changed, then there is nothing for the self-improvement motive to change. Therefore, one seeks out positive information. Thus it is even in the individual's best interest to seek self-enhancement because there is no opportunity to fix or change the self. This justification is used because the situation is beyond control and embracing negative information would not provide any benefits. When change is not an option it would be useless to focus on having deficiencies or flaws, which would only induce

discomfort. However, if a situation can be improved, and is perceived as being highly changeable, then there is reason to seek out negative self-improvement feedback since it could lead to tangible improvements in the future (Trope et al., 2003). The negative feedback will also produce less discomfort because the self in this situation can change and adapt. This is the idea that if the self can change the aspect that is being criticized, it will hurt less and provide less emotional distress. Therefore if told that one eats too much salt it will be less troubling than if told that one is a mean person because it is much easier to monitor one's salt intake than adjust one's core personality features.

**Construal level theory.** Although perceived level of changeability helps explain when people choose certain motives, another factor is an individual's subjective construal of the world. Construal level theory explains when and why one is able to overcome a self-control conflict. This theory states that individuals can mentally represent situations at varying levels of abstraction (Trope & Liberman, 2003). For example the act of recycling can be described more abstractly, a high-level construal, as "helping to take care of the environment" or more concretely, a low-level construal, as "placing a bottle in a recycling can". Both viewpoints describe the act of recycling; however, they vary in their level of abstraction. The former example focuses on a more abstract representation of the behavior and the latter describes recycling in more concrete terms of the actual process of the action (Liberman & Trope, 1998; Vallacher & Wegner, 1987). Those who construe an event more abstractly from a high-level construal have been shown to focus on long-term goals and more superordinate features of a situation, as compared to those construing events more concretely from a low-level construal (Freitas et al., 2008; Fujita et al., 2006; Trope et al., 2007; Trope &

Liberman, 2003). Construal levels are also useful in understanding self-relevant information search.

Construal levels can also be manipulated as a mindset, or how one mentally views the world, which allows researchers to experimentally enhance an individual's ability to exert self-control (Freitas et al., 2004; Fujita et al., 2006). Exerting self-control requires choosing to ignore short-term temptations and act in line with more long-term goals. Construal level theory helps explain when individuals are able to successfully exert self-control depending on one's mental representations (Fujita, 2008; Fujita et al., 2006). When faced with a self-control conflict, high-level construals help people to see beyond instant gratification and align their actions toward reaching goals that are more beneficial in the long-term. Conversely, when construing events more concretely, low-level construals, people are more likely to focus on fleeting pursuits of the moment, such that people are more susceptible to self-control failure (Freitas et al., 2001).

With high-level construals shown to promote self-control success, and information search providing a long-term/short-term conflict, individuals with these higher construals would be more likely to consider negative or self-improvement information than those thinking at low-level construals (Freitas et al., 2001). Previous research has shown an influence of construal levels yet there may be another factor that interplays with construals, which is level of perceived changeability. When the self is highly changeable those at high-level construals will seek out the self-improvement motive; however, when not changeable these high-level construals should lead to avoiding negative information and seeking the self-enhancement motive. These two

factors interact to influence the opposing dual-motives of self-improvement and self-enhancement.

### **Applying Dual-Motives at the System Level**

The self-relevant information search literature has shown that construal levels and changeability will influence what motive of self-improvement or self-enhancement is sought out. Although this applies to the self, the same principles that have been discussed also apply at the system level. The self and the system are distinct and different entities; however, the two motives parallel each other. We propose that the self-enhancement motive is parallel to the current system-justification motive. Individuals will seek positive information to justify a system in a similar manner that one will seek positive self-enhancement feedback while avoiding negativity. However, as seen through the self-literature, there are also situations when individuals seek out negative information, the self-improvement motive, to make a change. Because change also happens at the system level, and people are not constantly justifying systems, there must also be another motive similar to what is shown in the self-literature. We believe that the self-improvement motive can be extended to a system-improvement motive. Individuals will seek out negative system-relevant information in an attempt to better the system in a similar manner that individuals seek information to better themselves. The two factors of perceived changeability and construal level can also be paralleled to not only influencing self-relevant information search but also determine the motive sought in system-relevant information search.

We believe that people do in the long-term aspire to live in the best possible system; yet system change produces uncomfortable anxiety in the short-term. We

propose that whether people act upon a system-justification vs. a system-improvement motive depends on the degree that they perceive the system to be changeable and their subjective construals of the world. The interplay of these factors will help determine which motive will be selected under certain conditions.

### **The Present Study**

The present study builds upon the idea that the self-relevant research discussed earlier can be extrapolated to system-relevant information search such that the system is interchangeable with the self. The current research attempts to show the existence of a dual-motive approach to system change. We used an information search paradigm to reveal the dual-motives, with willingness to seek negative information (system-improvement motive) and willingness to seek positive information (system-justification motive). The act of seeking diagnostic negative feedback that could improve the system in the future demonstrates the system-improvement motive. Seeking positive information that highlights the positive aspects of the system demonstrates a system-justification motive. Wanting diagnostic system-improvement information is uncomfortable in the short-term, however has more long-term benefits because it can potentially change and improve the current system. We hypothesize that system-improvement information will be selected when participants perceive the system as being highly changeable. When an individual perceives that he or she can indeed influence the future of a certain system he or she will be more open to negative information because it can be used to directly cause change. We hypothesize that high-level vs. low-level construals will promote seeking a system-improvement motive over a system-justification motive. We expect that people thinking from a high-level construal



instead of a low-level construal will be more motivated to seek negative system information. At a high-level construal one will seek the negative system assessment motive and will accept the short-term cost of discomfort to receive the long-term benefits of being a part of the best system possible, an example of self-control success. At low-level construals one will be more focused on the immediate consequences and seek out system-justification feedback to maintain a positive view of their system, an example of self-control failure. There are, however, certain situations in which higher level construals might encourage the system enhancement motive. This likely occurs when the system is not perceived as being changeable, because receiving negative information will only cause stress in the short-term without providing any benefit in the long-term. Thus, when from a high-level construal one will more likely understand one's inability to affect the future outcome of the system and therefore perform the system-defensive task of reaffirming one's views of the current system.

The two factors of perceived changeability and one's construal level interact to determine the motive selected to pursue. We thus predict that participants will choose the system-improvement motive when at a high-level construal and when believing that they are capable of changing the system. This pattern may reverse when participants at high-level construals believe that they are incapable of causing change and will therefore defend and justify the system.

## **Method**

### **Participants**

Participants were 163 Introductory Psychology students (80 male) at The Ohio State University who ranged in age from 18 to 30 ( $M = 19.01$ ). Students received partial

course credit in exchange for their participation. Fifteen participants were excluded for failing to follow instructions. Three participants were also excluded because they reported system relevance ratings over two standard deviations below the mean ( $M = 5.35$ ,  $SD = 1.27$ ). This means that these participants did not find the system to be relevant and, as explained earlier, the predictions are only made if the system is perceived as being relevant to the participants. This left a sample of 145 Introductory Psychology students (74 male) who took part in the study.

### **Procedure**

Participants entered the laboratory in groups ranging between four to ten and were seated spaced apart throughout the room. All study materials were in paper packets that contained directions. Participants were randomly assigned to one of four conditions consisting of high and low-level construals and high and low levels of changeability. Participants were manipulated into differing conditions through a changeability manipulation and construal manipulation. The study began with all conditions being presented with the same information regarding the system being used in the study. This was followed by the changeability manipulation, which intended to influence how changeable the system was perceived to be. Following the changeability manipulation participants were manipulated into high- and low-level construals, which determined the level of abstraction used when thinking about the following information presented in the study. After this final manipulation participants were presented with the information search and dependent variables. The study concluded with demographic questions and then the participants were debriefed and given credit.

**System information.** To identify an appropriate system to present to participants, a pilot study was conducted to assess the relevance, importance, and flawed nature of various systems (e.g. General Education Curriculum requirements, allocation of tuition, parking on campus, recycling, scheduling classes, foreign language requirements, football ticket ordering, marijuana legalization and drinking age restrictions) to the average Ohio State student. Forty introductory psychology students received partial course credit for their participation. Students completed several questions assessing their opinions of the systems including: *How important do you think the system is? How much does the system affect you? To what extent is the system in need of change?* and *To what extent do you think the system could be changed for the better?* (Appendix A). These questions were completed on 7-point Likert-type scales anchored at “not at all” and “extremely”. These answers were averaged to create an index that reflected the degree to which each system met the requirements for system-justification. A comparison of these means showed that the class scheduling system had the highest overall average ( $M = 4.143$ ). As a result, this system was selected for the experimental session. Class scheduling was the highest rated overall system as well as being near the top on a variety of the individual questions.

Participants began the study by reading information summarizing some of the positive and negative features of the current course scheduling system. The summary began by highlighting how honors students are advantaged while non-honors students are not able to sign up for desired classes and are wait-listed from crucial major classes needed to graduate. After reading about these flaws in the system, participants read about how the system could actually be worse, suggesting that change may not

guarantee improvement. They were told that honors students are typically more successful and donate more money to the university, so if they are not satisfied they might be less inclined to donate which would hinder the average students' experience and would likely hurt the university as a whole (Appendix B).

**Perceived changeability manipulation.** Participants were then informed that because of our unique position of being able to obtain a representative sample of Ohio State students, we were surveying their views on the future of the class scheduling system. Participants were randomly assigned to two conditions designed to manipulate the extent to which they felt capable of changing the system. Half were assigned to a low changeability condition in which they were told that their comments and suggestions may be taken to the administration at which point they may or may not be considered by a seemingly unreceptive official (Appendix C). This information was intended to create the feeling amongst participants that their opinions were unlikely to be influential and that the system was unchangeable. The other half were assigned to the high changeability condition in which, they were then told that their feedback would be taken directly to the Undergraduate Dean, who had historically been open to students' opinions and had expressed interest in changing the system in accordance with students' views (Appendix D). This was intended to create the feeling amongst participants that their views would indeed be heard and that they were capable of bringing about and influencing change.

**Construal manipulation.** Participants then completed a manipulation of construal level, developed and validated in previous research (e.g., Freitas et al., 2004; Fujita, Trope, Liberman, & Levin-Sagi, 2006). This task manipulates the abstractness of

participants' construals by having them either think about *how* to go about completing a certain task (low-level manipulation, Appendix E), or about *why* one completes a certain task (high-level manipulation, Appendix F). For example, when thinking about how one maintains good oral hygiene, one considers the concrete acts involved in brushing one's teeth or flossing, such as putting toothpaste on the brush by squeezing the tube with one's hand. However, the question of why one maintains good oral hygiene presses for more abstract and broad responses, such as leading a healthy lifestyle to maximize happiness. Participants were given two construal manipulations and were randomly assigned either to consider why or how they would maintain good oral hygiene, as well as why or how they would maintain recycling levels. For both manipulations they received either the how condition or the why condition. In previous research, this manipulation has been shown to induce mindsets that influence subsequent unrelated tasks (Fujita et al., 2006).

**Dependent measure.** Participants were then informed that a group of experts were recently brought in to assess the efficiency and effectiveness of the class scheduling system at The Ohio State University (Appendix G). They were told that two reports came out of this assessment, one focused on strengths and the other on weaknesses of the system (Appendix H). Participants were then told that we were interested in their feedback and suggestions about the system. To help be more informed, they would be given more information. However, due to time constraints, they would only be allowed to share their preferences to read one of the two reports mentioned earlier, either "The Strengths Report: What about the system of class scheduling is good in its current state" or "The Weakness Report: What about the

system of class scheduling is bad in its current state.” Participants then reported to what extent they would prefer to read one article over the other on a 7-point Likert-type scale with The Weaknesses Report and The Strengths Report on opposite poles (Appendix I). The participants were never given an article to read and instead received the debriefing.

**Manipulation check.** Next participants answered three questions intended as a check of the perceived changeability manipulation. These questions included: “How open do you believe The Ohio State University is to students’ opinions?” “To what extent do you feel that your opinions will affect any change decided on by the administration?” and “How much of an impact do you believe your opinions have on the future of the current system of scheduling classes?” These questions were all presented on a 7-point Likert-type scale (Appendix J).

## Results

### Manipulation Check

The first analysis examined the effectiveness of the changeability manipulation as assessed by the changeability manipulation check. We expected to find that those in the high changeability condition would report higher scores on the manipulation check than the low changeability condition. Analysis of the three changeable manipulation check items indicated adequate reliability (Cronbach’s  $\alpha = 0.84$ ). These items were then averaged to create an index with higher numbers indicating greater perceived changeability ( $M = 3.97$ ,  $SD = 1.28$ ). A 2 (changeability: high vs. low)  $\times$  2 (construal: high vs. low) ANOVA revealed that, importantly there was no difference between the high changeability condition ( $M = .23$ ) and the low changeability ( $M = .22$ ),  $F(1, 144) = .00$ ,  $p = .99$ . There was also no main effect of construal level  $F(1, 144) = .01$ ,  $p = .91$

and no interaction between the changeability and construal conditions,  $F(1, 144) = .02$ ,  $p = .88$ . This analysis indicates that the changeability manipulation may have been unsuccessful. The failure of the manipulation check may provide some insight into why the primary analysis failed.

### **Primary Analysis**

The primary analyses explored whether perceived changeability and construal level influenced report preference. Among participants in the high changeability condition, we expected that those manipulated to a high-level of construal would be more likely than those manipulated to a low-level of construal to seek out system-improvement information by choosing to read weaknesses. We also expect that among participants in the low changeability condition, those induced to a high-level of construal will seek system-justification information by choosing to read the strengths. To test this hypothesis, we ran a 2 (changeability: high vs. low) x 2 (construal: high vs. low) between subjects ANOVA. Contrary to predictions, this analysis revealed a non-significant interaction between changeability and construal level,  $F(1, 144) = .10$ ,  $p = .76$  (see Figure 1). Therefore the participant's report preference could not be predicted from their changeability and construal condition. That lack of significant findings may not be surprising given the failure to confirm the effectiveness of the changeability manipulation (see manipulation check analysis above)

### **Exploratory Analysis**

Given the disappointing primary results, we conducted exploratory analyses using our manipulation check items as our assessment of perceived changeability. This changeability index can be interpreted as reflecting how changeable the system is to

participants. We expected that participants who reported higher perceived changeability would be more likely to seek system-improvement information by choosing to read weaknesses when at a high vs. low construal level. To test this hypothesis, the changeability manipulation check, construal level, and the statistical interaction of these two variables were regressed onto report preference, with construal effects-coded (-1= low, 1= high) and the changeability manipulation check mean-centered. This analysis revealed a significant interaction between the changeability manipulation check and construal level ( $b = -.25$ ,  $SE = 0.12$ ),  $p = .04$  (see Figure 2).

Simple slope analysis of this interaction indicated that when participants viewed the system as being highly changeable there was a marginal effect of construal level on information search. Participants who adopted a high-level construal more likely sought the weakness report as compared to those at a low-level construal ( $b = -.32$ ,  $SE = .19$ ),  $p = .09$ . In contrast, there was no effect of high-level or low-level construals when the system was perceived as not being changeable ( $b = .30$ ,  $SE = .28$ ),  $p = .20$ . The simple slope analysis also revealed that participants adopting low-level construals had a significant effect of changeability on the information search ( $b = .35$ ,  $SE = .15$ ),  $p = .03$ , while there was no effect among participants adopting high-level construals ( $b = -.16$ ,  $SE = .18$ ),  $p = .37$ . These results supported our hypothesis and showed that when at a high construal level and when the system is perceived as being highly changeable, participants will seek out the system-improvement motive and choose the weakness report. Participants at low levels of perceived changeability and high-level construals will seek out the system-justification motive and chose to read the strengths report.

## Discussion



We predicted that participants who perceive the system of class scheduling as being highly changeable, those at a high construal level will seek system-improvement information. Contrary to our hypotheses, we found that participants who adopted high-level construals did not seek out negative system information in the high changeability condition. However, further analysis suggested that the changeability manipulation was ineffective in inducing a high-level of perceived changeability over the system. It is understandable that the predicted results were not found because of unsuccessfully manipulating changeability. The predictions were based on the differences between the changeability conditions, and because the manipulation check failed, we would not expect to see the predicted results. Supplemental findings imply that if there were a stronger and more influential changeability manipulation then the predicted results would be found. Attempts to rectify this limitation will be addressed later in the future directions section.

Because the manipulation did not alter perceived changeability, the manipulation check items were then used as a measure of participants' perceived level of changeability. An analysis using this measured changeability variable did reveal the predicted pattern of those perceiving the systems as being highly changeable and at a high-level construal would seek to read the negative report. This latter finding lends some support for the dual-motive approach, in that individuals who adopted high-level construals (vs. low-level construals) were relatively more likely to seek negative information, (i.e. pursued the system-improvement motive), when they believed that the system was changeable.

## **Future Research**

**Improving changeability manipulation.** One reason that the expected primary results were not found may be due to the unsuccessful changeability manipulation. Future studies will address this issue in several ways. Although it is theoretically possible for our hypothesized effects to emerge even in the largest systems, as a first demonstration, it may have been easier to use a smaller system that students are more likely to feel capable of altering. More careful attention to our pilot data might have helped anticipate the difficulty in manipulating the perceived changeability of the course scheduling system we examined. When we selected course scheduling as our system of interest from our pilot data, our primary focus was maximizing the relevance of the system relevance as well as students' perception that change was necessary. In hindsight, we should have paid more attention to the question "to what extent are you personally capable of changing the system." The means for this question were very low with no system being rated higher than 2.82 on a 1 to 7 scale. Since no system stood out as being superior on the perception that one can personally change the system, and because we were planning to manipulate this perception, we felt comfortable using the class scheduling system. However, our manipulation may not have been strong enough to make our student participants feel as if the system were in fact changeable in a meaningful way. Future research will need to pilot test a broader variety of systems with a specific focus on personal changeability. Recycling, for example, may be a fruitful avenue for future research efforts. The effectiveness of a recycling program requires individuals to make a personal effort. This capacity for each individual to make a difference could be the focus of a future high changeability manipulation. In contrast, a low-changeability manipulation could instead focus on the magnitude of the problem,

while trivializing the impact that any one person can have. This could help solve the issue of the system not being personally able to be changed.

Another possible route to enhance participants' perceived capacity to change a system could be to use a sample of individuals who are, in fact, in control over the future of certain systems. For instance, members of the Undergraduate Student Government (USG) may be ideal candidates, as they have a more tangible capability to influence future policies and system outcomes. USG representatives could be randomly assigned into two conditions, with one group working on a resolution for a present issue that will be enacted shortly, and the other group working on a project that is beyond the powers of their governmental system, such as a political issue or a past USG issue that will not be reopened for alterations. Manipulated construal levels would be included in this study, with the hypothesized result that representatives addressing a current issue under their control who adopt high-level construals would seek out negative, system-improvement information in an information search paradigm.

Another idea that incorporates the student government would involve a USG representative administering the experiment. In the high changeability condition, this individual would explain his/her role as a representative of the student body and would describe his or her intention to voice students' concerns and to work for their best interests. The representative will go on to explain how these surveys will be taken seriously and will be used to develop new policies. He or she would cite dates and times when the USG would discuss the results and explore possible remedies to students' concerns. This manipulation could create a feeling of genuine capability to influence the future of the system, which would be expected to promote the system-improvement

motive among individuals who adopt high-level (vs. low-level) construals. In the low changeability condition, the representative would explain that the USG actually has no power or jurisdiction over the system in question and would be unable to alter the system. This could engender a low sense of individual control over the future of the system which we predict would promote the system-justification motive regardless of an individual's construal level. This design is similar to the current study however, bringing in the student government representatives may add intensity and realism to the distinction between experimental conditions. This would yield a more effective changeability manipulation, which should strengthen our results.

It may also be possible to induce varying levels of perceived changeability through priming. In one condition, students could read a passage about an inspirational case study in which an individual student created new university policies and made tangible changes on a large scale. This would activate the idea that an average student, just like themselves, is capable of producing important changes. This could create a feeling that the individual has control and is capable of changing the system being studied. The low changeability condition would not read this inspirational story, but rather a story about an unchangeable system where an individual is in no position to cause change.

**Beyond information search.** The next two steps, following understanding the factors behind the decision to seek positive vs. negative system-relevant information, would be to accept the information that one seeks out, and finally to measure actual action toward system-change. This would go beyond openness to read information that might promote change to accepting this information and eventually leading to actual

behavioral intentions or direct actions to reform a system. The same changeability by construal level predictions would apply to this scenario, with individuals in the high-construal level and high changeability condition being most likely to enact change. A possible study to examine acceptance of information would use persuasion to see if participants will accept positively or negatively valence information presented about a system. Participants will be given either strictly positive or negative information and asked questions assessing how much they believe in the information they encountered. This might show that not only will people seek out certain information under appropriate conditions, but will also accept that information as being accurate. The final step would be to show actual behavior or acting on behavior intention. A possible behavioral study would be to use the system of recycling, for possibly having high base rate levels of perceived changeability as mentioned earlier, and induce high and low construal levels while manipulating changeability further. The dependent variable would be whether they sign a petition to improve recycling levels on Ohio State's campus, which will be administered by a confederate in the hallway following the experiment. The predictions remain constant with those manipulated to a high-level of perceived changeability and those who adopt a high-level construal will more often sign the petition as compared to those at a low construal level.

## **Implications**

Interesting implications from the current study is that this is among the first to document the operation of a system-improvement motive. Past research has focused exclusively on the system-justification motive. This research suggests that there very well might be a system-improvement motive, and that it can affect people's judgment

and behavior. This is demonstrated in an information search paradigm, but as discussed above, theoretically it should extend beyond search to actual behavior. What is exciting is that many of the principles that are related to self-change may now be extended to system-improvement in light of the current study. For example, value-affirmation reduces defensive processing of negative information (e.g., Sherman, Nelson, & Steele, 2000). Perhaps system-level value affirmation might do the same thing. A possible example of this can be seen with President Barack Obama's campaign for election. Throughout his campaign, he began speeches by affirming the nation as the greatest country in the world and then bringing up issues that need to be addressed and changed. This may have opened the public up to seeking change and electing Obama to presidency. This demonstrated a case of value affirmation being used to reduce avoiding negative information at the system-level.

The current research explores a new domain and extends the substantial system justification literature that already exists. Furthermore, this study successfully demonstrates parallels between the system justification literature and the self relevant information literature and provides an array of future studies that could further examine this connection.

Another theoretical implication is in the realm of construal levels and understanding system change as a self-control conflict. The current research suggests that system change is indeed a self-control conflict with high-level construals leading to greater selection of system-improvement motive under appropriate conditions. This is important because it widens the spectrum of influences that construal levels have by exploring a novel self-control conflict. Seeing system change as a self-control conflict

can be used to further understand when people will seek to change a system by incorporating further self-control literature. This will be an important contribution to both the self-control literature as well as the system justification literature by providing more support for the dual-motive approach to system change.

The possible implications, if future studies can find additional support for this dual-motive approach, could inform our understanding of decision-making regarding system change. The system justification theory response to this idea is that people will justify systems regardless of their being disadvantaged by the particular system. However, this cannot always be the case because systems are often changing, adapting, and altering to various societal needs. An example of system change that was initiated by the average person would be the recent uprising and overthrowing of the government in Egypt. The Egyptian people rejected the status quo and sought out system improvement by bringing about system change through revolution. Another historical example of system change can be seen with the events around the Berlin Wall in Germany. Thousands of people protested and fought against the government's restrictions and eventually led to the tearing down of the Berlin Wall. These historical accounts are just two of thousands of examples when individuals sought out system change and refused to solely justify the status quo. Thus it will be important for researchers to understand when system change occurs, an issue to which this study may represent an important first step.

Anecdotal support for our research returns to the presidential campaign of President Barack Obama. One could argue that another reason Obama, besides the reasons mentioned earlier about value affirmation, won the election was due to his

focus on America's abstract ideals (i.e. inducing high-level construals) along with his appeal to the possibility for change (i.e. inducing high perceived changeability). These abstract ideals were some of the value-affirmation tools that were explained earlier. The high-level of perceived changeability was demonstrated through his various campaign slogans such as "Yes we can!" and numerous images of Obama with the word "change" as the caption. The induced high-level construals paired together with high perceived changeability should, according to our findings, lead to seeking out system improvement. In this way, Obama's victory could be evidence that system-justification is not the only motive. These examples provide some evidence that people do not always justify bad systems, and our research may provide a first step in explaining why.

It is important to explore this second motive of system-improvement, instead of solely focusing on system-justification, and understand when people will be motivated to pursue one over the other. Understanding what is necessary to seek the long-term benefit of belonging to a maximally efficient system could have crucial ramifications in daily life. This could lead to more active efforts for enacting system change, or at least greater openness to seeking out unsettling negative information, rather than solely justifying current circumstances. Possible real-world implications could use this insight to keep people from refusing to seek out or recognize possibly tragic flaws in a system, such as the refusal to acknowledge that the levee system designed to protect New Orleans from hurricanes was flawed. Recognition of the susceptibility to catastrophe, while unsettling, could have helped prevent a disaster such as Katrina. Another example of when seeking out system-improvement information could have been beneficial in averting disaster was before the BP oil spill. If the engineers and managers



in charge of the pipeline's operations sought out or acknowledged the possible flaws in their system they could potentially have addressed some of the flaws that eventually led to the spill.

In summation, extensive research can still be conducted to further investigate the role of a dual-motive approach (system-justification versus system-improvement) in system change. However, the current results suggest cautious optimism that when changeability is manipulated effectively individuals who represent the situation using high-level construals will pursue the long-term system-improvement motive.

## References

- Bayer, U. C., & Gollwitzer, P. M. (2005). Mindset effects on information search in self-evaluation. *European Journal of Social Psychology, 35*, 313 – 327.
- Freitas, A. L., Langsam, K. L., Clark, S. & Moeller, S. J. (2008). Seeing oneself in one's choices: Construal level and self-pertinence of electoral and consumer decisions. *Journal of Experimental Social Psychology, 44*, 1174 – 1179.
- Freitas, A. L., Gollwitzer, P., Trope, Y. (2004). The influence of abstract and concrete mindsets on anticipating and guiding others' self-regulatory efforts. *Journal of Experimental Social Psychology, 40*(6), 739-752
- Freitas, A. L., Salovey, P. & Liberman, N. (2001). Abstract and concrete self-evaluative goals. *Journal of Personality and Social Psychology, 80*, 410-424.
- Fujita, K. (2008). Seeing the forest beyond the trees: A construal-level approach to self-control. *Social and Personality Compass, 2*(3), 1475-1496.
- Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology, 90*(3), 351-367.
- Jost, J., Banaji, M., Nosek, B. (2004). A Decade of system justification theory: accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology, 25* (6), 881-919.
- Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science, 14*, 260 – 265.
- Jost, J. T., & Hunyady, O. (2002). The Psychology of system justification and the palliative function of ideology. *European Review of Social Psychology, 13*, 111-153.

- Kay, A. C., Jimenez, M. C. & Jost, J. T. (2002). Sour grapes, sweet lemons, and the anticipatory rationalization of the status quo. *Personality and Social Psychology Bulletin*, 28, 1300 – 1312.
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, 75, 5 – 18.
- Ragunathan, R. & Trope, Y. (2002). Walking the tightrope between feeling good and being accurate: Mood as a resource in processing persuasive messages. *Journal of Personality and Social Psychology*, 83, 510 – 525.
- Sedikides, C. & Gregg, A. P. (2008). Self-enhancement: Food for thought. *Perspectives in Psychological Science*, 3, 102 – 115.
- Sedikides, C. & Strube, M. J. (1997). Self-evaluation: To thine own self be good, to thine own self be sure, to thine own self be true, and to thine own self be better. *Advances in Experimental Social Psychology*, 29, 209 – 269.
- Sherman, D., Nelson, L., Steele, C. (2000). Do messages about health risks threaten the self? Increasing the acceptance of threatening health messages via self-affirmation. *Personality and Social Psychology Bulletin*, 26(9), 1046-1058.
- Snyder, M. & Swann, W. (1978). Hypothesis-testing processes in social interaction. *Journal of Personality and Social Psychology*, 36(11), 1202-1212.
- Trope, Y., Gervy, B., & Bolger, N. (2003). The role of perceived control in overcoming defensive self-evaluation. *Journal of Experimental Social Psychology*, 39, 407-419.

Trope, Y. & Liberman, N. (2003). Temporal construal. *Psychological Review*, 110, 403-421.

Trope, Y., Liberman, N. & Wakslak C. (2007). Construal levels and psychological distance: Effects on representation, prediction, evaluation, and behavior. *Journal of Consumer Psychology*, 17, 83 – 95.

Trope, Y. & Neter, E. (1994). Reconciling competing motives in self-evaluation: The role of self-control in feedback seeking. *Journal of Personality and Social Psychology*, 66, 646-657.

Vallacher, R., & Wegner, D. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review*, 94(1), 3-15.

Wolff, E. N. (1996). Top heavy: The increasing inequality of wealth in America and what can be done about it. New York: The New Press.

### Appendix A: Pilot Study

The following questions were asked in the pilot studies with the particular system in the blank space:

1. How much does the system of \_\_\_\_\_ affect you?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

2. How unfair do you find the system of \_\_\_\_\_?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

3. How much of an inconvenience is the system of \_\_\_\_\_?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

4. How much experience do you have with the system of \_\_\_\_\_?

|             |   |   |   |   |   |              |
|-------------|---|---|---|---|---|--------------|
| None at all |   |   |   |   |   | A great deal |
| 1           | 2 | 3 | 4 | 5 | 6 | 7            |

5. How important do you think the system of having \_\_\_\_\_ is?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

6. How valuable do you think the system of having \_\_\_\_\_ is?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

7. To what extent do you feel that the system of \_\_\_\_\_ is in need of change?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

8. How concerned should you be with the system of \_\_\_\_\_?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

9. To what extent do you think the system of \_\_\_\_\_ could be changed for the better?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

10. To what extent are you personally capable of changing the system of \_\_\_\_\_?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

11. How knowledgeable are you about the system of \_\_\_\_\_?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| Not at all |   |   |   |   |   | Extremely |
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |

12. Are you satisfied with the system of \_\_\_\_\_?

**The systems that were pilot studied were:**

1. General Education Curriculum
2. Allocation of Tuition
3. Parking Limitations
4. Recycling
5. Scheduling Classes
6. Foreign Language Requirements
7. Ordering Football Tickets
8. Marijuana Legalization
9. Drinking Age Restrictions
10. Other System (free response)

*Appendix B: System information*

Here at OSU, the current process of scheduling classes is determined by various enrollment dates, usually according to class rank. However, with the exception of graduating seniors, honors students get priority scheduling before all students, regardless of their rank.

Thus, honors students are given first choice for classes that have limited space. As a result, fellow students of the same rank are often unable to gain access to these classes. This can prevent students from registering for required classes or prerequisites for their major, which can lead to scheduling disasters and may even delay graduation.

The current system not only makes it more challenging to take required classes, the system also gives honors students an advantage in signing up for fun elective classes whose seats are in high demand.

These courses are entirely unrelated to the more privileged students' studies, however, early enrollment is seen as one of the perks of being an honors student.

In general, the current system seems to maximize the educational experience for honors students – but possibly at the expense of those not in the honors program



The University provides such benefits to these students because , as Alumni, honors students tend to be more successful and are thus more likely to donate to the University. Therefore, honors students are treated well in hopes that they will eventually return the favor financially to their Alma Matter.

If these benefits were to be removed, alumni donations might therefore be expected to drop. This could further jeopardized the average student's education at OSU by reducing the number and variety of courses that the school can afford to offer.

*Appendix C: Low-Level Changeability Manipulation*

Our research lab has decided to put the slogan “*OSU: Where students have a voice*” into action by seeking feedback from students regarding possible changes to the class scheduling system.

These student comments, concerns, and suggestions will be taken to the administration and may or may not be passed to the Undergraduate Dean, Dr. Wayne Carlson. Dr. Carlson then may or may not take these suggestions into account.

In the end, Dr. Carlson and other administrators will examine the materials they deem relevant and will have the final say in any future decisions regarding changes to the system of class scheduling.

*AppendixD: High Level Changeability Manipulation*

The administration has decided to put the slogan “*OSU: Where students’ voices count*” into action, by seeking feedback from the students that will be critical to determining any changes made to the class scheduling system.

These student comments, concerns, and suggestions will be taken directly to the Undergraduate Dean, Dr. Wayne Carlson, who has expressed great interest in considering student input when making such changes. Dr. Carlson has been an advocate for student contributions to administrative decisions. In the past he has been extremely open to students’ suggestions, allowing their opinions to have a significant impact on important decisions.

*Appendix E: Low-level construal manipulation***“How Do We Do the Things We Do?”**

For everything we do, there always is a process of how we do it. Moreover, we often can follow our broad life-goals down to our very specific behaviors. For example, like most people, you probably hope to find happiness in life. How can you do this? Perhaps finding a good job, or being educated, can help. How can you do these things? Perhaps by earning a college degree. How do you earn a college degree? By satisfying course requirements. How do you satisfy course requirements? In some cases, such as today, you participate in a psychology experiment.

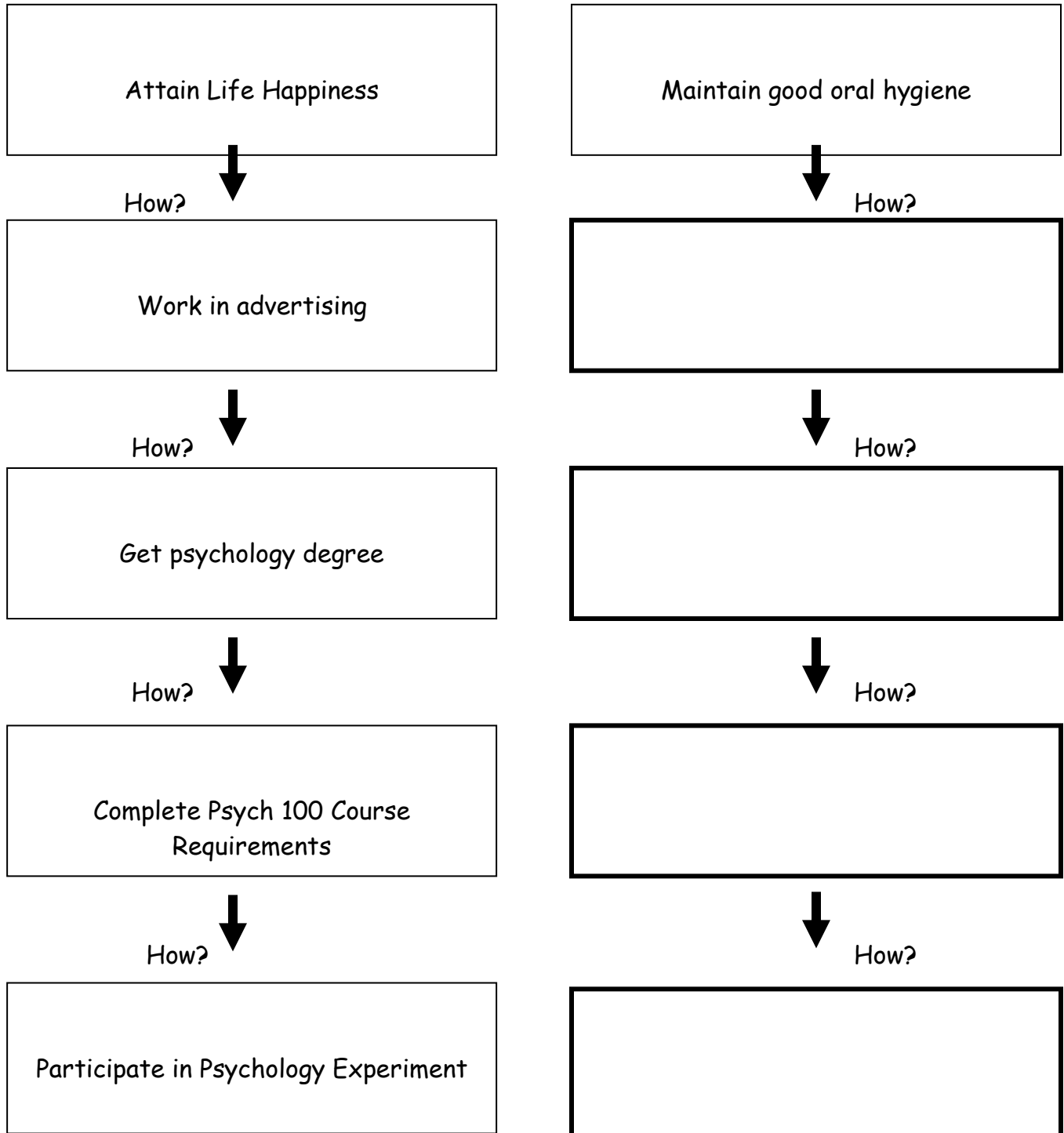
Research suggests that engaging in thought exercise like that above, in which one thinks about how one’s ultimate life goals can be expressed through specific actions, can improve people’s life satisfaction. In this experiment, we are testing such a technique. This thought exercise is intended to focus your attention on how you do the things you do.

For this thought exercise, please consider the following activity: “Maintaining oral hygiene.”

\*\*\*\*\*

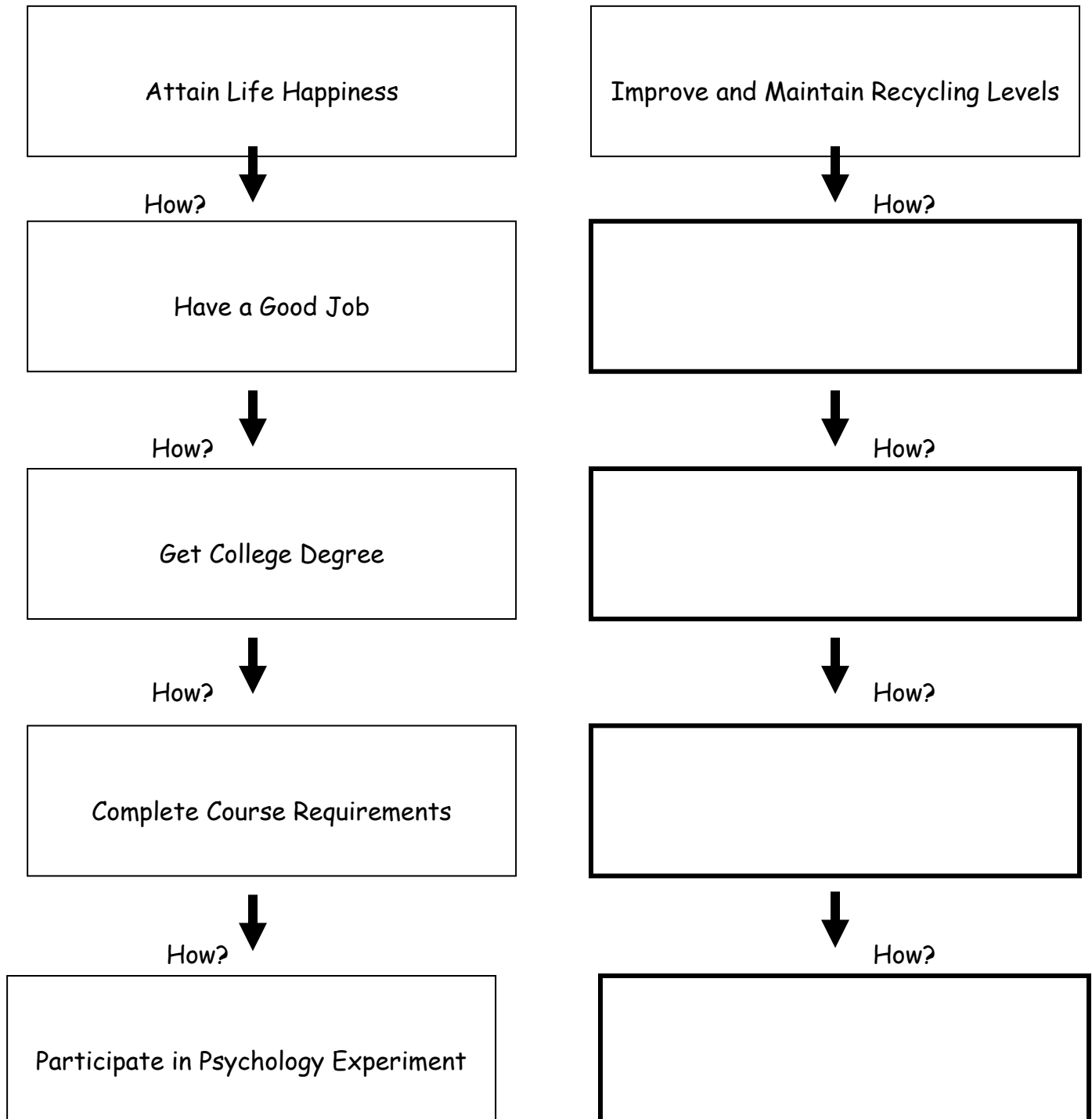
To show how the goal of “maintaining good oral hygiene” can be met through specific activities, please fill in the 4 blank boxes below, in the series on the right. Beginning in the highest blank box (the one just below the box labeled “Maintain good oral hygiene”), fill in each box by answering the question “How I can meet the goal described in the immediately higher box?”

To help you with this exercise, the boxes on the left show how our example, attaining life happiness, can be linked to specific activities.



To show how the goal of “improving and maintaining your recycling levels” can be met through specific activities, please fill in the 4 blank boxes below, in the series on the right. Beginning in the highest blank box (the one just below the box labeled “Improve and Maintain Recycling Levels”), fill in each box by answering the question “How I can meet the goal described in the immediately higher box?”

To help you with this exercise, the boxes on the left show how our example, attaining life happiness, can be linked to specific activities.



*Appendix F: High-level construal manipulation***“Why Do We Do the Things We Do?”**

For every thing we do, there always is a reason why we do it. Moreover, we often can trace the causes of our behavior back to broad life-goals that we have. For example, you currently are participating in a psychology experiment. Why are you doing this? Perhaps to satisfy a course requirement. Why are you satisfying the course requirement? Perhaps to pass a psychology course. Why pass the course? Perhaps because you want to earn a college degree. Why earn a college degree? Maybe because you want to find a good job, or because you want to educate yourself. And perhaps you wish to educate yourself or find a good job because you feel that doing so can bring you happiness in life.

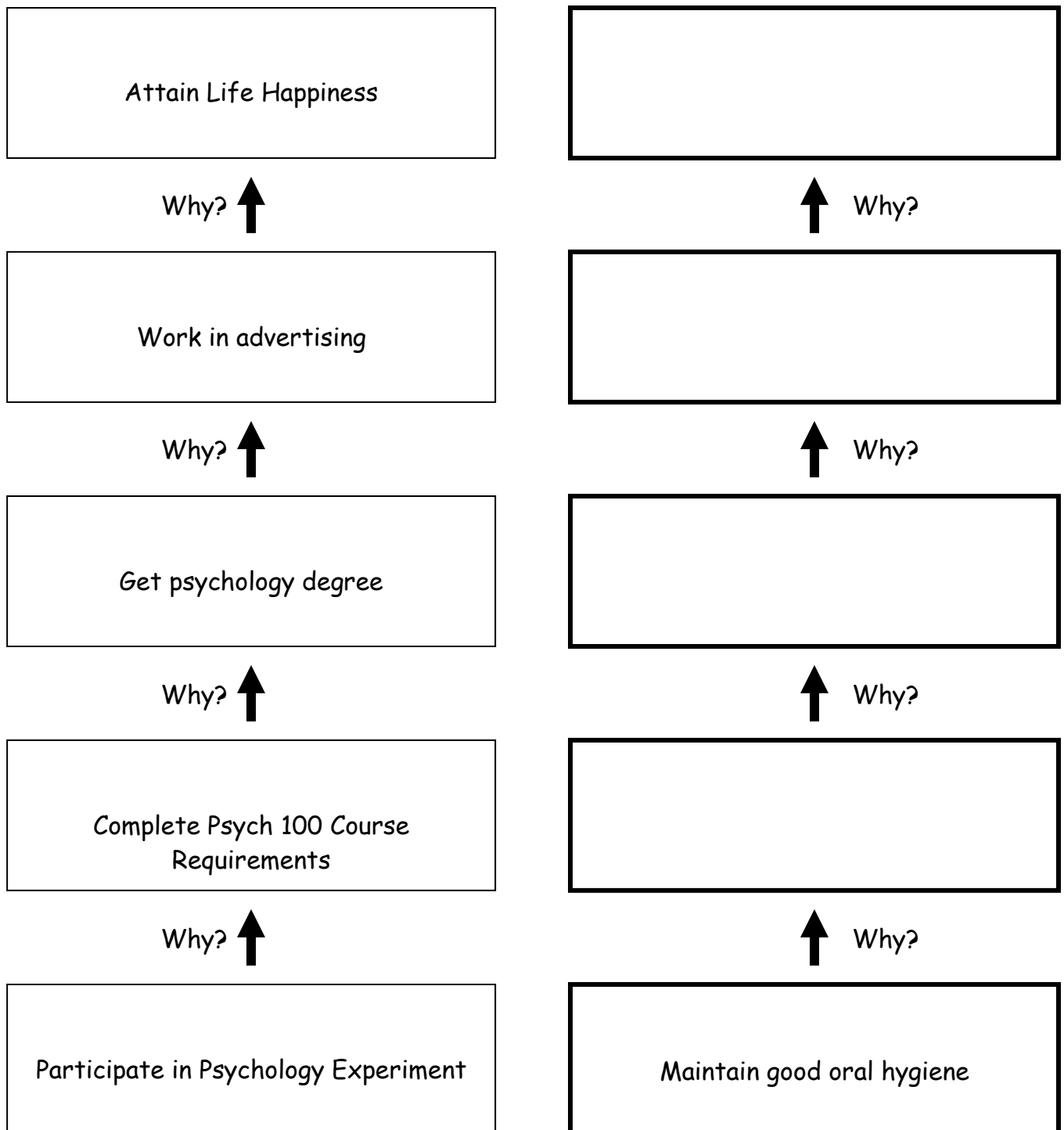
Research suggests that engaging in thought exercise like that above, in which one thinks about how one's actions relate to one's ultimate life goals, can improve people's life satisfaction. In this experiment, we are testing such a technique. This thought exercise is intended to focus your attention on why you do the things you do.

For this thought exercise, please consider the following activity: ““Maintaining oral hygiene.”.”

\*\*\*\*\*

To show how the activity of “maintaining good oral hygiene” can help you meet important life goals that you have, please fill in the 4 blank boxes below, in the series on the right. Beginning in the lowest blank box (the one just above the box labeled “maintain good oral hygiene”), fill in each box by answering the question “Why do I engage in the behavior described in the immediately lower box?”

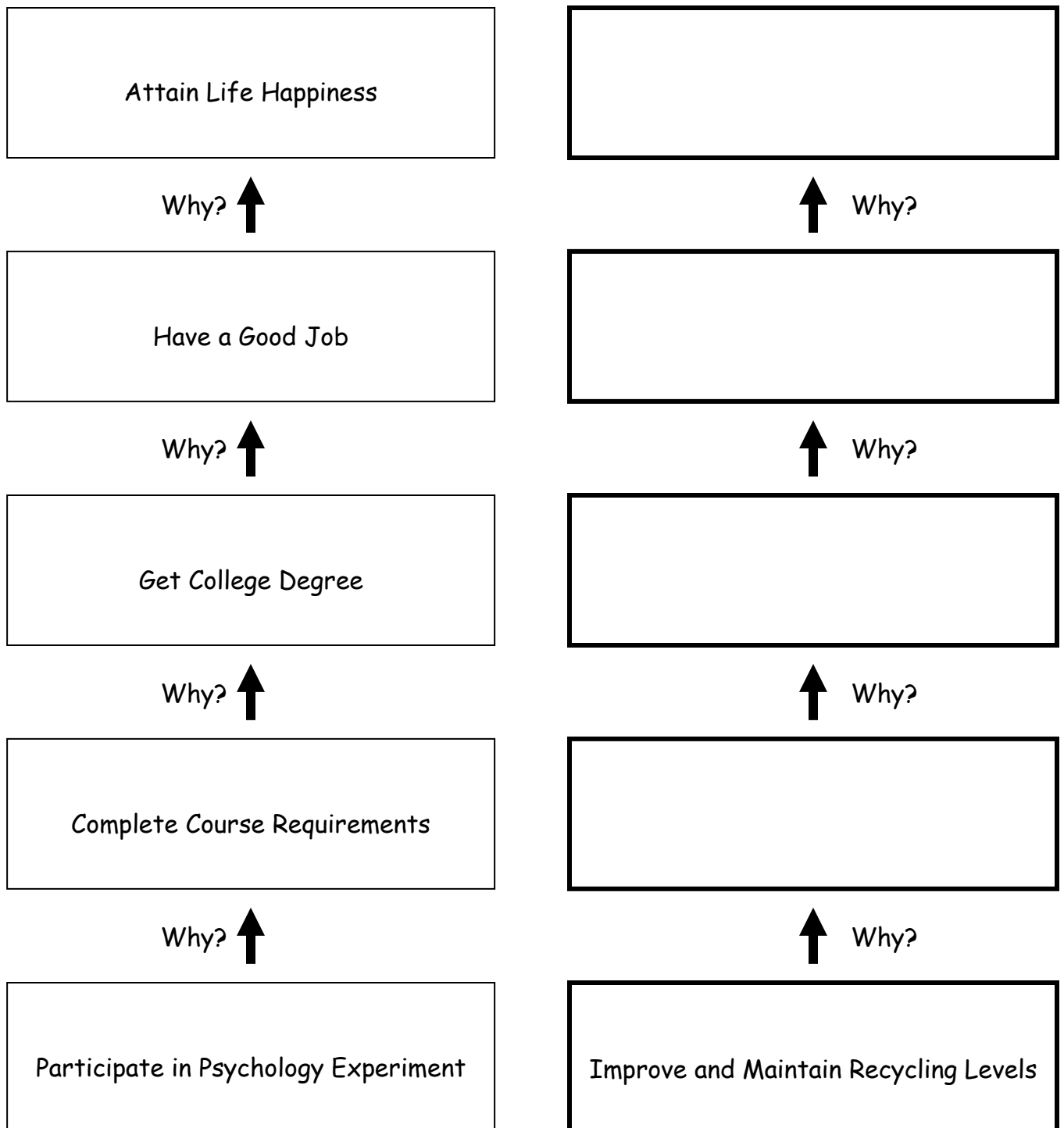
To help you with this exercise, the rectangles on the left show how our example, participating in a psychology experiment, can be linked to important life goals.





To show how the activity of “improving and maintaining your recycling levels” can help you meet important life goals that you have, please fill in the 4 blank boxes below, in the series on the right. Beginning in the lowest blank box (the one just above the box labeled “Improve and Maintain Recycling Levels”), fill in each box by answering the question “Why do I engage in the behavior described in the immediately lower box?”

To help you with this exercise, the rectangles on the left show how our example, participating in a psychology experiment, can be linked to important life goals.



*Appendix G: Expert cover story*

Recently Ohio State brought in a group of experts to assess the efficiency and effectiveness of a variety of scheduling related tasks.

This group wrote a formal report summarizing their results. One aspect of their report examined the system of class scheduling. The group's results in this area were organized by focusing either on the strengths or weaknesses of the current system.

Below are two articles summarizing the group's findings on this issue.

*Appendix H: Information search paradigm*

We want to hear your feedback and suggestions about the system of class scheduling. To help you feel more informed, you will be allowed to choose one of these articles to read before expressing your opinions. Due to the limited time of this study you will only be able to read one of the two possible articles.

The two articles you will be asked to choose between are:

Strengths Report:

The strengths report: What about the system of class scheduling is **good** in its current state.

Weaknesses Report:

The weaknesses report: What about the system of class scheduling is **bad** in its current state.

*Appendix I: Dependent measure*

Next, please use the options provided to answer the following questions.

- 1.) To what extent would you prefer to read one of the following articles over the other?

|                       |   |   |   |   |   |                      |
|-----------------------|---|---|---|---|---|----------------------|
| 1                     | 2 | 3 | 4 | 5 | 6 | 7                    |
| The Weaknesses Report |   |   |   |   |   | The Strengths Report |

- 2.) Which of these two articles would you like to read later in this study? (circle one)

a) The strengths report: What about the system of class scheduling is **good** in its current state.

b) The weaknesses report: What about the system of class scheduling is **bad** in its current state.

*Appendix J: Changeability manipulation check*

1. How open do you believe The Ohio State University is to students' opinions?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |
| Not at all |   |   |   |   |   | Extremely |

2. To what extent do you feel that your opinions will affect any change decided on by the administration?

|            |   |   |   |   |   |           |
|------------|---|---|---|---|---|-----------|
| 1          | 2 | 3 | 4 | 5 | 6 | 7         |
| Not at all |   |   |   |   |   | Extremely |

3. How much of an impact do you believe your opinions have on the future of the current system of scheduling classes?

|           |   |   |   |   |   |             |
|-----------|---|---|---|---|---|-------------|
| 1         | 2 | 3 | 4 | 5 | 6 | 7           |
| No impact |   |   |   |   |   | Huge impact |

### Figure Captions

Figure 1. Univariate ANOVA of interaction between construal level and changeability condition. Motive chosen determined by seeking out preferred system information article on a scale of of 1, Weaknesses Article, (System Improvement Motive) to 7, Strengths Article (System Justification Motive).

Figure 2. Two way linear regression between construal level and changeability manipulation check. Motive chosen determined by a scale of preferred system information article of 1, Weaknesses Article (System Improvement Motive) to 7, Strengths Article, (System Justification Motive).

Figure 1

Interaction between perceived level of changeability and construal level

$$F(1, 144) = .10, p = .76$$

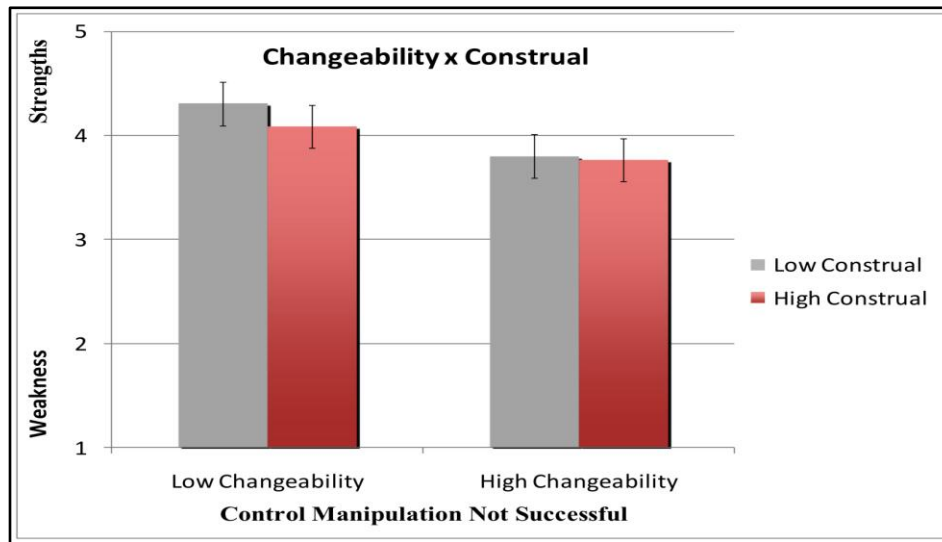


Figure 2

Significant interaction between changeability manipulation check and construal level

$$(b = -.25 (SE = .12) p = .04).$$

